Examining Social–Ecological Factors in Developing the Louisville Metro Department of Public Health and Wellness Syringe Exchange Program

Amid an opioid epidemic and increasing HIV and hepatitis C virus (HCV) concerns, the Louisville Metro Department of Public Health and Wellness developed syringe exchange programming (SEP) to reduce HIV and HCV transmission, increase linkage to health care, and provide health education to clients in Louisville, Kentucky. We describe organizational, community, and policy factors contributing to SEP development. Approximately 8000 clients received SEP services from June 2015 to December 2016. Coalition building, timely advocacy, and media engagement are integral to successful SEP development and uptake. (*Am J Public Health*. 2019;109:454–457. doi: 10.2105/AJPH.2018.304897)

Jelani Kerr, PhD, MSPH, Melissa Atlas, MATS, Wayne Crabtree, MDiv, Yu-Ting Chen, MPH, MS, and Sarah Moyer, MD, MPH

Increasing concerns of opioid use, HIV, and hepatitis C virus (HCV) warrant implementation of evidenced-based strategies for people who inject drugs (PWID).

INTERVENTION

Intervention goals were to reduce HIV and HCV transmission and link PWID to health services via syringe exchange programming (SEP).

PLACE AND TIME

The intervention period was June 2015 through December 2016 in Louisville, Kentucky.

PERSON

SEP targeted PWID in Louisville, Kentucky.

PURPOSE

SEP reduces HIV and HCV risk by increasing access to sterile syringes and syringe disposal.[1] SEP reduces transmission risk, improves entry to substance use disorder (SUD) treatment (through linkage to treatment),[2] is cost effective,[3] and may reduce overdose risk. Despite this, information is needed to guide SEP development, particularly in locales that are historically resistant to harm reduction. We used the social ecological model, a framework highlighting a health outcome's existence in integrated systems spanning intrapersonal through policy considerations, to examine Louisville's SEP development and provide preliminary findings of SEP impact. We focused on policy (legal), community (norms), and organizational (service delivery practices) factors.

IMPLEMENTATION

Social–ecological factors influenced SEP development and implementation.

Policy

State policy change allowing SEP at local levels laid groundwork for SEP implementation. Kentucky's Senate Bill (SB192) and KRS 218A.510 amendment enacted Kentucky's Harm Reduction and Syringe Exchange Program in March 2015 to allow municipal creation and funding of SEP. Language in the legislation allowed local tailoring of SEP. Harm Reduction and Syringe Exchange Program priorities were syringe provision, increased HIV and HCV testing, safe syringe disposal, and PWID linkage to treatment and social services.

The Louisville Metro Department of Public Health and Wellness (LMPHW) advocated local SEP approval by educating local council members about SEP. LMPHW emphasized the benefit of preventing HIV and HCV, linkage to SUD treatment, overdose prevalence in all council districts, and evidence-based practice. Other animating agents were an escalation of HIV cases (80 cases January 2015–March 2015) and high HCV coinfection rate (95%) in nearby Scott County, Indiana, principally among PWID. LMPHW conveyed Louisville's potential susceptibility and identified SEP as an effective strategy for reducing HIV and HCV transmission. Additionally, council members reported being affected

ABOUT THE AUTHORS

Jelani Kerr is with the Department of Health Promotion and Behavioral Sciences, School of Public Health and Information Sciences, University of Louisville, Louisville, KY. Melissa Atlas is with the School of Social Work, University of Louisville. Wayne Crabtree, Yu-Ting Chen, and Sarah Moyer are with the Louisville Metro Department of Public Health and Wellness, Louisville, KY.

Correspondence should be sent to Jelani Kerr, MSPH, PhD, Department of Health Promotion and Behavioral Sciences, School of Public Health and Information Sciences, University of Louisville, 485 E Gray St, Louisville, KY 40202 (e-mail: j.kerr@louisville.edu). Reprints can be ordered at http://www.ajph.org by clicking the "Reprints" link.

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by the opioid epidemic via friend and family networks and helped convince other council members to approve legislation.

The Louisville Metro Council unanimously approved legislation to open and fund a LMPHW syringe exchange program in May 2015. The SEP opened 10 weeks after Harm Reduction and Syringe Exchange Program approval in June 2015. This timeline fit within a window of opportunity when implementing evidence-based strategies aligned with political will. A centrally located SEP site opened at LMPHW offices, and a mobile exchange was developed in partnership with an AIDS service organization in October 2015. SEP was initially a seven-site plan with locations throughout Louisville. Despite unanimous SEP approval, some council and community members expressed reticence to allow SEP sites in their neighborhoods, citing fears of attracting PWID into individual districts. The seven-site plan was postponed to more quickly establish the main site at LMPHW. This action allowed rapid SEP implementation in a location accessible to public transit while also providing opportunities for later expansion.

Community Factors

An expected challenge to SEP rollout was a narrative positioning SEP as a moral hazard. This is deemed a byproduct of longstanding commitment to prohibition.[2] Thus LMPHW implemented a multifaceted strategy to counteract negative community SEP perception on the basis of this narrative. First, LMPHW engaged media (television, print) to heighten SEP visibility and provide evidenced-based information about syringe exchange. Messaging centered on

TABLE 1—Demographics for Syringe Exchange Program Participants: Louisville, Kentucky, June 2015–December 2016

Variable	LMPHW, No. or No. (%)	Mobile, No. or No. (%)	Total, No. or No. (%)
Clients	7 361	1 174	7 988
Return clients	3 276 (44.5)	391 (33.3)	3 577 (44.8)
Syringes collected			
Provided	733 091	108 611	841 702
Collected	416 667 (56.8)	68 271 (62.9)	484 938 (57.6)
Gender			
Female	2 010 (37.4)	362 (40.8)	2 173 (37.5)
Male	3 347 (62.3)	523 (58.9)	3 603 (62.1)
Trans woman	11 (0.2)	0 (0.0)	11 (0.2)
Trans man	9 (0.2)	3 (0.3)	12 (0.2)
Sexual orientation			
Straight/heterosexual	4 842 (89.9)	816 (90.3)	5 243 (90.0)
Gay/lesbian	217 (4.0)	38 (4.2)	232 (4.0)
Bisexual	296 (5.5)	47 (5.2)	315 (5.4)
Questioning	3 (0.1)	0 (0.0)	3 (0.1)
Race[a]			
White	4 984 (91.7)	875 (95.8)	5 609 (91.5)
Black/African American	244 (4.5)	38 (4.2)	268 (4.6)
Native American	40 (0.7)	5 (0.6)	43 (0.7)
Asian/Pacific Islander	11 (0.2)	3 (0.3)	11 (0.2)
Other	164 (3.0)	21 (2.3)	174 (3.0)
Hispanic			
Yes	113 (2.1)	14 (1.5)	121 (2.1)
No	5 324 (97.9)	899 (98.5)	5 756 (97.9)
Employed			
Yes	1 895 (34.9)	265 (29.0)	2 004 (34.1)
No	3 542 (65.2)	648 (71.0)	3 873 (65.9)
Insurance			
Medicaid	3 065 (56.4)	561 (61.5)	3 326 (56.6)
Medicare	200 (3.7)	37 (4.1)	223 (3.8)
Private/commercial	647 (11.9)	91 (10.0)	687 (11.7)
Other	48 (0.9)	12 (1.3)	56 (1.0)
Uninsured	1 480 (27.2)	214 (23.4)	1 590 (27.1)
Drug use			
Heroin	4 594 (84.4)	755 (82.4)	4 946 (84.1)
Other opioids	199 (3.7)	33 (3.6)	221 (3.8)
Cocaine	163 (3.0)	30 (3.3)	185 (3.1)
Methamphetamine	1 377 (25.3)	242 (26.4)	1 480 (25.2)
Other drugs	93 (1.7)	12 (1.3)	100 (1.7)
Drug use frequency per day			
1 or 2	1 143 (15.5)	113 (9.6)	1193 (14.9)
3 or 4	2 021 (27.5)	250 (21.3)	2129 (26.7)
≥ 5	4 199 (57.0)	811 (69.1)	4 668 (58.4)

Note. LMPHW = Louisville Metro Department of Public Health and Wellness. Totals may not equal sum of mobile and LMPHW sites, as some participants accessed services from both sites.

[a]Participants were allowed to choose multiple categories.

the facts that (1) SEP is a proven effective HIV and HCV risk-reduction method, (2) SEP does not increase drug use, (3) SEP provides linkage to health care and SUD treatment, and (4) SEP is cost effective. Further messaging highlighted crime reduction in Louisville and elsewhere after SEP implementation. Second, LMPHW and its partners performed goodwill actions to promote SEP such as "clean up days," wherein volunteers collected syringes from public spaces. Finally, LMPHW spoke with stakeholders to highlight SEP benefits. For example, LMPHW met with law enforcement personnel to discuss benefits (e.g., fewer needlesticks) and discuss policing strategy (e.g., nonconfiscation of drug paraphernalia). Moreover, LMPHW provided stakeholders with SEP tours and opportunities to discuss SEP with staff.

Organizational Factors

LMPHW had preestablished relationships with stakeholders interested in reducing HIV and HCV risk, enabling LMPHW's program to be developed in partnership with community stakeholders, other SEPs, and the local harm-reduction coalition over 10 weeks. LMPHW convened a series of meetings with medical and public health professionals, local harm-reduction activists, AIDS service organizations, and drug treatment facilities upon passage of statewide SEP legislation. This group met biweekly and provided SEP development guidance, service linkage, and an evaluation framework; splinter groups, including workgroups focused on communication strategies, evaluation, linkage to care, and budgeting, made recommendations to guide organizational practice. Stationary SEP services were within a one-mile radius of a drug treatment facility and a Ryan White clinic (a health care provider for persons living with HIV). The national harm-reduction coalition trained LMPHW on topics such as drug-related stigma, safer injection, SEP outreach, and overdose prevention and response.

Strategic hiring decisions influenced client interactions. LMPHW hired a certified alcohol and drug counselor to implement SEP components. Consequently, extant knowledge of Louisville's drug treatment services was readily accessible to clients. This streamlined linkage to appropriate and specialized SUD treatment. Additionally, when clients expressed substance use behavior concerns or interest in treatment, the counselor's training, skills, and experience helped facilitate harm-reduction behaviors and influence decision making. Finally, SUD counselors are uniquely positioned to assist in linkage to treatment, which appealed to decision makers. Peers engaged in SEP delivery, but these benefits differentiate LMPHW from peer-based programs.

EVALUATION

There were 7988 clients utilizing SEP, and 45% became repeat clients (received services more than once; Table 1). Clients completed intake questionnaires, and staff documented delivery of services. Participants were principally male, heterosexual, White, unemployed, and Medicaid recipients. Most participants reported drug use of at least five times daily.

HIV testing was the most frequently used SEP service (Table 2). Almost 6% of participants received HCV testing; 2% tested positive, and 3% were referred to treatment (known positives were linked to care but not retested). Almost 4% of participants received SUD treatment referrals (the primary mechanism for improving health care entry). Regarding education, syringe disposal was most frequently discussed, followed by overdose prevention and naloxone, HIV prevention, and sexual risk reduction. HIV and HCV testing uptake was not as high as expected. Many participants were known to be positive for HCV (thus not retested), and developing client rapport and promoting safe injection were immediate staff priorities. HIV and HCV testing was a ubiquitous offering.

ADVERSE EFFECTS

Some clientele reported fear of SEP uptake because of law

TABLE 2—Summary of Syringe Exchange Program Services and Education: Louisville, Kentucky, June 2015–December 2016

Variable	LMPHW, No. (%)	Mobile, No. (%)	Total, No. (%)
Testing and health care services			
HCV tested	424 (5.8)	61 (5.2)	470 (5.9)
Tested HCV positive in SEP	178 (2.4)	16 (1.4)	190 (2.4)
Referred for HCV treatment (known positives and newly SEP diagnosed)	252 (3.4)	24 (2.1)	275 (3.4)
HIV tested	513 (7.0)	107 (9.2)	585 (7.3)
Tested HIV positive in SEP	3 (0.0)	0 (0.0)	3 (0.0)
Referred for HIV treatment (reconnected to care and new positives)	12 (0.2)	0 (0.0)	12 (0.2)
Drug treatment referral	298 (4.1)	9 (0.8)	305 (3.8)
Referred to primary care physician or hospital for immediate medical needs	22 (0.3)	0 (0.0)	22 (0.3)
Education efforts			
Discussion of proper disposal of used needles	6 608 (89.8)	908 (77.7)	7 173 (89.7)
Discussion of HIV/AIDS transmission and prevention	1 305 (17.7)	390 (33.4)	1 679 (21.0)
Discussion of sexual risk reduction and condom use	1 198 (16.3)	386 (33.0)	1 574 (19.7)
Discussion of overdose prevention and naloxone	2 391 (32.5)	561 (48.0)	2 864 (35.8)
Discussion of medical insurance options	201 (2.7)	20 (1.7)	64 (0.8)

Note. HCV = hepatitis C virus; LMPHW = Louisville Metro Department of Public Health and Wellness; SEP = syringe exchange programming. Totals may not equal sum of mobile and LMPHW sites, as some participants accessed services from both sites.

enforcement interaction during early SEP implementation. This was addressed with law enforcement education and SEP endorsement by police department leadership.

SUSTAINABILITY

Various factors promote long-term SEP sustainability and its continued existence. Research to estimate the number of HIV and HCV cases avoided and SEP cost effectiveness can guide future legislative decision making. LMPHW maintains relationships with community stakeholders and service providers; thus, the infrastructure for service linkages remain. Furthermore, the municipal climate supports SEP continuance. Finally, the Harm Reduction and Syringe Exchange Program allows local intervention tailoring.

PUBLIC HEALTH SIGNIFICANCE

PWID are at increased risk for overdose, SUD, poorer physical and mental health,[3] and HIV and HCV.[4–6] National HCV rates have increased along with injection rates[7]; thus, the need for SEP is increasing but guidance on program development is needed, particularly in locales historically resistant to harm reduction. Political climate influences SEP creation, and collaboration with community is integral to rapid SEP development. Future studies should explore impact evaluations examining HIV and HCV reduction and cost-effectiveness. AJPH

CONTRIBUTORS

J. Kerr contributed to the conceptualization of the study and the development of evaluation metrics and led the writing of this article. M. Atlas wrote the public health significance section and contributed to the purpose section. W. Crabtree helped develop and implement the intervention. Y. Chen assisted in intervention evaluation. S. Moyer led the development of the intervention and assisted in conceptualizing the study. All authors reviewed and edited the article.

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CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

HUMAN PARTICIPANT PROTECTION

No protocol approval was necessary because this study employed de-identified secondary data that did not require participant consent.

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